

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

ORIGINAL

In the Matter of )  
 )  
Revision Of The Commission's Rules )  
To Ensure Compatibility With )  
Enhanced 911 Emergency Calling )  
Systems )  
 )  
Minnesota Southern Cellular )  
Telephone Company )  
 )  
Licensee of Cellular Radiotelephone )  
Service Station KNKN572, Market )  
No. 491(A), Minnesota 10 - LeSueur )  
RSA. )

CC Docket No. 94-107  
RM-8143

File No. \_\_\_\_\_

RECEIVED

DEC - 4 1998

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

To: The Commission

PETITION FOR WAIVER OF SECTION 20.18(C) OF THE RULES

Minnesota Southern Cellular Telephone Company ("the Petitioner"), by its attorney and pursuant to the Commission's Order, Mimeo DA 98-2323, released November 13, 1998 ("Order") in the referenced rulemaking proceeding, hereby requests the Commission to waive the requirements of Section 20.18(c) of the Rules, effective January 1, 1999. In support hereof, the following is shown:

1. The Petitioner is the licensee of Cellular Radiotelephone Service Station KNKN572, the Frequency Block A cellular system serving the Minnesota 10 - LeSueur RSA. Each cellular base station in the Petitioner's cellular system operates with both standard analog channels and Time Division Multiple Access ("TDMA") digital channels.

2. Insofar as relevant here, Section 20.18(c) of the Rules

No. of Copies rec'd 4/6  
List ABCDE

relates to the transmission of 911 calls made from Text Telephone ("TTY") devices using digital wireless systems. In its Order, the Commission acknowledged the October 30, 1998 filing by the Cellular Telephone Industry Association ("CTIA") of the Workplan of the Wireless TTY Forum. The Commission characterized the October 30 Workplan as identifying "possible solutions for TTY access over digital wireless systems,"<sup>1</sup> thus acknowledging that the technology does not presently exist to transmit 911 calls from TTY devices over digital wireless systems. Accordingly, in the Order, the Commission: a) extended the suspension of enforcement of Section 20.18(c) of the Rules through December 31, 1998; and b) established procedures pursuant to which wireless carriers subject to the requirements of Section 20.18(c) of the Rules may petition the Commission for waivers of such requirements which, if granted, will take effect on January 1, 1999, after the suspension of enforcement expires.

3. At this juncture, the Petitioner wishes to emphasize that a waiver of Section 20.18(c) of the Rules does not appear to be required in this case. In the Order, the Commission established "a waiver mechanism that requires carriers to provide specific information (including well-documented timetables and milestones) regarding their plans to comply with the requirements of Section 20.18(c)"<sup>2</sup> of the Rules. The Commission took "this action because persons with disabilities who rely on TTY devices must be able to

---

<sup>1</sup> Order, Para. 2.

<sup>2</sup> Order, Para. 4.

use 911 in emergencies, when lives may depend on effective communication with public safety personnel" Order, Para. 4 (emphasis in original). In this case, all of the Commission's objectives are met by the Petitioner's existing cellular facilities. As noted above, the Petitioner's cellular system is equipped with both analog and digital channels. The TTY devices operate on the Petitioner's existing analog channels, and, as a result, speech or hearing impaired individuals can use the Petitioner's existing cellular system to place 911 calls. Thus, the Petitioner's existing system clearly meets the requirements of Section 20.18(c) of the Rules.

4. To the extent that a waiver of Section 20.18(c) of the Rules is needed, it is clearly warranted here. At present, the equipment simply does not exist to permit the operation of TTY devices on digital channels, and the Commission has not yet determined the best means of accomplishing compliance with the requirements of Section 20.18(c) of the Rules, all of which has been expressly acknowledged by the Commission. In its Order, the Commission characterized CTIA's October 30 Workplan as suggesting that "carriers operating digital wireless systems will not be able to bring themselves into compliance with the requirements of Section 20.18(c) in the near future," but acknowledged "that the Forum has striven to develop voice-based and data-based solutions to the problems associated with successfully transmitting TTY calls over such systems" Order, Para. 5. The Commission encouraged the Forum to continue its efforts "since it has the opportunity to

serve as a vehicle to spur further discussion and analysis of possible solutions;" and stated that the Forum "should continue the task of providing test results and demonstrations on several potential methods for dealing with incompatibility between TTY devices and the different digital wireless technologies" Order, Para. 6 (emphasis added). Not only has the Commission acknowledged the nonexistence of the necessary technology, but it has also admitted that the best means for complying with Section 20.18(c) have yet to be decided. In this regard, the Commission observed that the "[c]ompletion of this testing and the provision of an evaluation of the test results by the Forum to the Commission will play a role in the Commission's determination of the best means to accomplish compliance with the requirements of Section 20.18(c)"<sup>3</sup> of the Rules. Clearly, a waiver of Section 20.18(c) of the Rules is warranted where, as here, the equipment does not exist to permit the operation of TTY devices on digital channels, and where the Commission has not yet determined the best means of accomplishing compliance with the requirements of Section 20.18(c) of the Rules. Given the circumstances, it is impossible to comply with the requirements of Section 20.18(c) of the Rules on digital wireless systems.

5. In Paragraph No. 11 of the Order, the Commission specified three categories of information that carriers should provide to support their waiver requests. These requirements are apparently intended "to require the carriers to demonstrate their commitment

---

<sup>3</sup> Order, Para. 6.

to, and plans for, complying with Section 20.18(c)"<sup>4</sup> of the Rules. Consistent with these requirements, the following information is submitted:

6. **Category 1** - What steps the carrier is taking or intends to take to provide users of TTY devices with the capability to operate such devices in conjunction with digital wireless phones.

7. **Response To Category 1**: The Petitioner's cellular system uses equipment manufactured by Northern Telecom ("NorTel"). The Petitioner plans to install the equipment necessary to provide the users of TTY devices with the capability to operate such devices on the system's digital channels as soon as practicable after the equipment becomes available from NorTel and from the manufacturers of TTY handsets.

8. **Category 2** - When the carrier intends to make this capability available to TTY users. This information should include well-documented timetables and milestones from the carrier regarding the implementation of this capability.

9. **Response To Category 2**: The development of timetables and milestones for the implementation of this capability is a function of, and contingent upon, the availability of equipment from NorTel and from the manufacturers of TTY handsets. The current state of development of the equipment is described in the attached letter from NorTel dated December 2, 1998 (See Attachment A hereto). The Petitioner plans to install the necessary equipment within six months of the date the equipment is available. However, it should

---

<sup>4</sup> Order, Para. 10.

be emphasized, as noted in Paragraph No. 3 above, that the Petitioner's present system has the capability on the existing analog channels.

10. Category 3 - What reasonable steps the carrier will take to address the consumer concerns referenced in the Commission's Order, Mimeo DA 98-1982, released September 30, 1998 (the "September 30 Order").

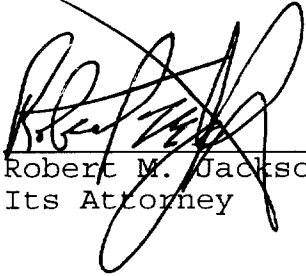
11. Response To Category 3: The consumer concerns are listed on the Appendix to the September 30 Order, a copy of which is attached hereto as Attachment B for ease of reference. These consumer concerns deal with technical issues which are a function of the equipment to be developed by the equipment manufacturers. The Petitioner will address these consumer concerns by installing state-of-the art equipment that complies with all applicable regulatory requirements, as soon as such equipment is developed and becomes commercially available.

**WHEREFORE**, good cause shown, the Petitioner requests that the instant petition be granted.

Blooston, Mordkofsky,  
Jackson & Dickens  
2120 L Street, N.W.  
Washington, D.C. 20037  
Tel.: (202) 659-0830

Respectfully submitted,

**Minnesota Southern Cellular  
Telephone Company**

By:   
Robert M. Jackson  
Its Attorney

Dated: December 4, 1998

Attachment A

**NORTEL  
NETWORKS**

December 2, 1998

Hickory Tech  
1640 Madison Avenue  
Mankato, MN. 56001  
Phone # 507/625-2355

Dear Jerry Wilke,

This letter is in response to your request for Nortel Networks to provide support information for Hickory Tech to file a waiver request with the FCC regarding the E911/TTY rules. This response is intended to give you insight into our direction on this issue. It is based on the best technical information we have available and upon what may be required by the FCC rule.

With regard to analogue calls through the Nortel Networks equipment supplied to Hickory Tech, to the best of our knowledge, our equipment is capable of transmitting 911 calls from people with speech or hearing disabilities through means other than the mobile handset, as an example through use of Text Telephone Devices (TTY). However, as noted below, most TTYs (a/k/a TTDs) in use today have not been designed to connect with wireless handsets, and the 911 text message may be corrupted by the consumers' equipment. Further, Nortel Networks believes that without extensive testing of text messages over analogue systems, it is premature to assume all 911 calls will be received by the 911 call center essentially error free.

With regard to digital calls through Nortel Networks equipment using the IS-95 CDMA air interface, the equipment, in the short term, is likely to not be capable of transmitting the 911 call with sufficient error free text to elicit proper 911 response.

With regard to digital calls through Nortel Networks equipment using the IS-136 TDMA air interface, the equipment, in the short term, may be capable of transmitting the 911 calls with sufficient error free text to elicit proper 911 response, depending upon the type of vocoder used in the system, the type of text message equipment used, and the type of handset used.

Industry standards to support TTY operation in digital mode are not currently defined. Nortel Networks is working with other equipment manufacturers and carriers to define the required design standards needed to develop this service. History tells us that it typically takes twelve to eighteen months from the adoption of standards to the commercial availability of product. However, in this instance, if the TTY is to be a part of the phone path to send text messages

for people with hearing or speech disabilities, then TTY manufacturers must work sincerely and cooperatively with wireless manufacturers to develop a workable standard. As technical TTY considerations must be considered for a good standard, the wireless industry cannot develop a good standard without technical assistance from TTY manufacturers. Nortel Networks consequently cannot project when a design standard will be in place. In the interim, consumers may wish to test placing text calls over the digital path, or set their handsets to transmit only in analogue mode for text message calls.

If the 911 call content is corrupted by the TTY consumer devices used by speech or hearing disabled users, Nortel Networks system equipment will not be able to correct the errors. Nortel Networks is aware that the vast majority of TTYs are not designed to connect to wireless handsets, and such lack of good connection frequently corrupts messages before they reach the system networks. There are some TTY equipment models that have connections that facilitate properly connecting handsets and the TTY, but we believe few are in use. As you are aware, Nortel Networks does not currently manufacture wireless handsets, and is unable to resolve this connectivity problem. In addition, Nortel Networks is not aware of any TTY that has been designed for its tones to be carried error free over digital vocoders designed for human speech. Therefore, the digital audio path is more prone to create text errors more frequently than text messages over analogue audio paths.

Complicating the task of providing text-messaging capability for those with hearing and speech disabilities, is the lack of standards in the TTY industry. The TTY has been the most used text message system for the hearing and speech disabled users covered by the FCC's 911 rule, but there does not appear to be a single solution that would work for all TTY devices in use. In addition to the TTY, consumers are using the Internet for sending and receiving text messages. Nortel Networks is aware that people with hearing and speech disabilities, increasingly use the Internet for communication, and the Internet may become a method for placing 911 calls into the future.

The wireless industry has been working with consumer representatives and TTY manufacturers in the TTY Forum for almost two years. Nortel Networks is hopeful that information sharing from this group and comprehensive testing will identify practical solutions that manufacturers can incorporate into system solutions. However at this time Nortel Networks believes that a person with hearing or speech disabilities may find it difficult to place a wireless 911 call with the TTY equipment that they use for wireline calls, and a solution for all TTY users is not achievable by 12-31-98.

Please contact Kevin Stricker at 770/521-9241 to further discuss this issue with you at your convenience.

Sincerely,

  
Adam Pritchard  
VP Marketing



## APPENDIX

September 10, 1998

To: TTY Forum

Fr: Consumer Representatives

The CTIA has said that most of the consumer criteria previously submitted were not usable by the TTY Forum because the criteria covered marketing and distribution as well as design. Marketing and distribution issues for a possible "one-phone-model-per-technology" short-term plan will be taken up with CTIA's senior management, as suggested by them.

This contribution is a new set of criteria to address only functional characteristics of the solutions. The new criteria also reflect new information from the Forum since the first list was drawn up. It is intended to cover any solution.

1. The character error rate should approximate that of AMPS, which has been demonstrated at  $< 1\%$  for stationary calls. More research on AMPS performance with TTY would be useful to assist in specifying a range of conditions.
2. The TTY caller must be able to visually monitor all aspects of call progress provided to voice users. Specifically, the ability to pass through sounds on the line to the TTY (so that the user can monitor ring, busy, answered-in-voice, etc.) should be provided.
3. There must be a visual indication when the call has been disconnected.
4. A volume control should be provided.
5. The TTY user must have a means of tactile (vibrating) ring signal indication.
6. The caller must be able to transmit TTY tones independent of the condition of the receiving modem. (This is to permit baudot signalling by pressing a key, to let a hearing person know that the incoming call is from a TTY.)

7. The *landline* party's TTY must not require retrofitting in order to achieve the desired error rate.
8. The *wireless* party's TTY may require retrofitting, or a new model TTY to be developed, or the use of a portable data terminal such as a personal digital assistant.
9. VCO and HCO should be supported where possible.
10. Reduction of throughput (partial rate) on Baudot is highly undesirable and should not be relied upon to achieve compliance (see #7). It may be useful as a user-selectable option to improve accuracy on a given call.
11. Call information such as ANI and ALI, where provided in wireless voice, should also be provided for TTY calls.
12. The solution need not support little-used or obsolete TTY models, but in general should support the embedded base of TTYs sold over the past ten years. The landline equipment supported must not be limited to that used in Public Service Answering Points (911 centers).
13. Drive conditions must be supported, again using AMPS as a benchmark.

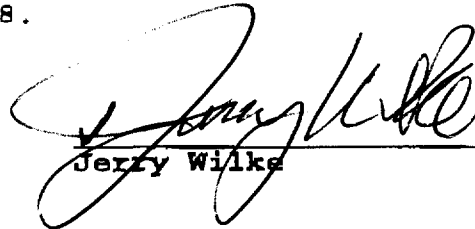
### Declaration

I, Jerry Wilke, hereby state the following:

1. I am a Vice President of Minnesota Southern Wireless Company, an intermediate parent corporation of Minnesota Southern Cellular Telephone Company ("MSCTC"). I am also the General Manager of MSCTC. MSCTC is the licensee of Cellular Radiotelephone Service Station KNKN572, the Frequency Block A cellular system serving the Minnesota 10 - LeSueur RSA.

2. I have read the foregoing "Petition For Waiver Of Section 20.18(c) Of The Rules," which is to be filed with the Federal Communications Commission by MSCTC. With the exception of those facts of which official notice can be taken, all facts set forth therein are true and correct to the best of my own personal knowledge, information and belief.

I declare under penalty of perjury that the foregoing is true and correct on my own personal knowledge. Executed on this ✓ 3<sup>rd</sup> day of December, 1998.



Jerry Wilke